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**AUTOMATIC MODEL REGULATION IN**  
**A DISC DRIVE SERVO SYSTEM USING**  
**MODEL REFERENCE INVERSE**

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**Abstract of the Disclosure**

10 An equalization filter for counteracting the effects of unwanted resonance modes and noise in the VCM plant. The filter comprises a transfer function derived from a function of the actual VCM plant response and an ideal response, for which the servo controller is designed. The response of the combined equalization filter and the actual VCM plant response substantially adheres to the ideal response. The disc drive includes firmware operable to generate one or more equalization filters for each of one or more heads.

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